

XXIII.—*On the Plumage-development of Nettion torquatum, Pœcilonetta erythrorhyncha, and Anas undulata.* By F. E. BLAAUW, M.B.O.U.

*NETTION TORQUATUM* has been for many years a Duck which was hardly ever found in collections of live birds, and only during the last few years have I been able to procure it.

The birds have proved to be easy to breed, and I am now able to give some details about their development.

The number of eggs laid in one brood was generally about seven, and they were deposited in a box hanging over the water.

The time of incubation lasts about 23 days.

The chick in down is in so far remarkable that, contrary to what is the case with most of the other Ducks, there is no yellow in the coloration of the down. It is a mixture of pearly white and blackish grey distributed as follows :—

The whole of the under side including the sides of the head and neck is pearly white or pure white. A blackish-grey band runs from the frontal base of the bill, over the occiput and the back of the neck and joins the blackish-grey upper side. A nearly pure black streak runs through the eyes from the base of the bill to the back of the head. The dark colour of the upper side includes the tail and the back part of the thighs. There is a whitish streak over each wing which runs into a spot of the same colour on each side of the back. On each side at the base of the tail there is a white spot, and one above each thigh. Bill pale lead-colour. Legs and feet greyish flesh-colour.

In the first plumage the young females of *Nettion torquatum* are like the adult females, although the different markings are slightly less conspicuous.

The young males in first plumage have a special plumage-dress, which may be described as follows :—

The upper part of the head to below the eyes is of a rufous grey-brown, the occiput being darkest. The back of the neck is of the same colour, but lighter than the occiput. The remaining parts of the upper side, including the scapulars.

is of a dark brownish grey. The scapulars, which will be red in the adult male, have a faint reddish sheen under some lights. The tail and tail-coverts, primaries and their coverts are deep black. The secondaries are metallic green or blue, according to the light. The white patch on the secondary coverts, which is formed by elongated and broadened black-tipped white feathers, is present as in the adult male. The chin and throat and fore-neck are of a pearly white, which darkens gradually upwards into the rufous grey-brown of the top of the head. The breast is pale buff finely freckled with brownish-black spots. The rest of the under side is pearly grey marked with darker grey transverse spots. Under tail-coverts dirty white, as are also the two spots at the base of the tail, which are pure white in the adult male. Legs and feet are greyish flesh-colour. Bill pale lead-colour.

Shortly after the bird has attained its full size and is completely feathered the moult into the dress of the adult male begins.

In the adult birds the legs are flesh-colour in both sexes. The bill of the adult male is bright blue with black nail. The bill of the adult female is of a slightly duller blue and has a blackish saddle-mark.

The chick in down of the African Red-billed Teal (*Pacilonetta erythrorhyncha*) is marked almost exactly like the chick of *Nettion torquatum*, but the light parts instead of being pearly white are pale lemon-yellow, whilst the dark parts of the upper side are also slightly tinted with yellow. There also is a dark spot between the yellow of the breast and that of the throat, and the dark line that runs from the base of the bill through the eye does not quite reach the brown of the neck as is the case in *Nettion torquatum*. The legs, feet, and bill are blackish.

In first plumage the African Red-billed Teal resembles the adults, but all the feather-markings, especially the light edgings of the wing-coverts, are not so well defined. The red of the bill is also duller than in the adult birds.

In the 'Catalogue of Birds in the British Museum' the African Red-billed Teal is included in the genus *Pacilonetta*,

which is a genus allied to the Pintails and differing so slightly from them that in my opinion they might very well be included in the genus *Dafila*. The Red-billed Teal shows no affinities with the Pintails. It has no lengthened tail-feathers and nothing in its habits reminds one of them. The affinities are certainly with the Teals, *Nettion* or *Querquedula*.

The male of this species is a remarkably silent bird. The only tone it emits is a subdued drawling note with very little sound in it, and which is accompanied by an elevation of the head.

The eggs, usually seven in number, are generally deposited in a nest at some distance from the water under a bush or a sedge.

The South African Yellow-billed Duck (*Anas undulata*) is also a rare Duck in European collections of live waterfowl. I brought my pair from Port Elizabeth in the spring of 1914, and the birds bred the following year.

The chick in down may be described as follows :—

The whole of the under side including throat and cheeks golden-yellow. A dark band begins at the base of the bill, widens over the occiput, and gets narrower over the back of the neck to join the brownish black of the upper side. The brown of the upper side runs into the yellow of the breast for about a centimetre on each side. A thin black line runs through the eyes, meeting the brown of the back of the neck. There is a blackish patch over each ear. There is a yellow spot on each side of the back at the base of the wings and a yellow streak over each wing, also a yellow spot on each side of the back at the base of the tail and one above each thigh. The legs, feet, and bill are black.

In first plumage the South African Yellow-bill resembles the adults, but the markings of the feathers are less well defined. The bill has its full yellow and black colour as in the adult birds.